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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/921,170

08/02/2001

Walter T. Burke

H052586.0003US0

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7590

10/20/2003

AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
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Houston, TX 77002

EXAMINER

LOPEZ, FRANK D

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 10/20/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,170

Applicant(s)

BURKE, WALTER T.

Examiner

F. Daniel Lopez

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-19, 21-24, 26, 27, 29-39 and 41-44 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1-9, 11-19, 21-24, 26, 27, 29-39 and 41-44 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

Response to Amendment

Applicant's arguments filed July 16, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1-9, 11-19, 21-24, 26, 27, 29-31 and 33-39 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection are necessitated by removal of the limitation that the first resilient material is a polyurethane.

Applicant argues that neither Pittman nor Dailey shows an annular heel section disposed between an annular flange and a lip section. The examiner disagrees. In Pittman, the annular heel section (43) includes a groove (44), which receives a periphery of the annular flange (33, column 2 line 68-71). A portion of the annular heel is between the annular flange and the lip section. In Dailey, the annular heel section (20) includes grooves, which receives a periphery of the annular flange (72). The outer portions of the annular heel, forming the grooves, is between the annular flange (72) and the lip section (18).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 1-3, 5-9, 11-13, 15-19, 21-23, 27, 29, 30, 33-34, and 36-39 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Pittman.

Claims 1-7, 11-17, 21-24, 26, 29-31, 33, and 35-37 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Dailey.

Claim Rejections - 35 USC § 103

Claims 41-43 are rejected under 35 U.S.C. § 103 as being unpatentable over Pittman in view of Handbook of Plastics, Elastomers and Composites. Pittman discloses a piston head assembly comprising an annular resilient piston seal mounted on a piston hub; wherein the seal includes an annular heel section (43) of a first low friction rigid plastic material (column 3 line 16-17) having a first hardness and a lip section (34, including 41, 42) of a second resilient material, such as urethane (column 3 line 15-16) having a second hardness less than the first hardness; with an annular flange (33) of

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the hub concentrically embedded into a posterior portion (44) of the heel section, with an outer portion of the posterior portion of the heel section surrounding a portion of an outer surface of the flange; but does not disclose that the first material is a polyurethane.

Handbook of Plastics, Elastomers and Composites teaches, that polyurethane has good abrasive resistance and low coefficient of friction (page 4.34 last two lines).

Since Pittman uses a low friction plastic for the first material, and Handbook of Plastics, Elastomers and Composites teaches that a polyurethane is a low friction plastic; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a polyurethane as the first material of Pittman, as taught by Handbook of Plastics, Elastomers and Composites, as a matter of engineering expediency.

Claims 41-44 are rejected under 35 U.S.C. § 103 as being unpatentable over Dailey in view of Handbook of Plastics, Elastomers and Composites. Dailey discloses a piston head assembly comprising an annular resilient piston seal mounted on a piston hub; wherein the seal includes an annular heel section (20) of a first low friction material (column 3 line 57-62) having a first hardness and a lip section (16, 18) of a second resilient material having a second hardness less than the first hardness (column 3 line 62-65); with an annular flange (52, 72) of the hub concentrically embedded into a posterior portion of the heel section, with an outer portion of the posterior portion of the heel section surrounding a portion of an outer surface of the flange; but does not disclose that the first material is a polyurethane. *AB*

Handbook of Plastics, Elastomers and Composites teaches, that polyurethane has good abrasive resistance and low coefficient of friction (page 4.34 last two lines).

Since Dailey uses a low friction plastic for the first material, and Handbook of Plastics, Elastomers and Composites teaches that a polyurethane is a low friction plastic; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a polyurethane as the first material of Dailey, as taught by Handbook of Plastics, Elastomers and Composites, as a matter of engineering expediency.

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Note that throughout the claims, a limitation concerning a "bumper section" (e.g. claim 36 line 11) is considered to be a name, and not define a limitation of the section. If applicant intends that "bumper section" should define a further limitation, this further limitation can be introduced into the claim. Note also that claims 6, 7, 16 and 17 are in effect a product by process claim, and since there appears to be no difference between the above pistons seals of Pittman and Dailey and a seal with a machined annular projection, the claims stand rejected.

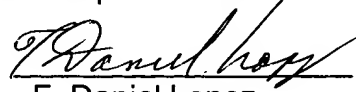
Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.


F. Daniel Lopez
Primary Examiner
Art Unit 3745
October 20, 2003